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Citation: 57 Fed. Reg. 27880 1992

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**ENVIRONMENTAL PROTECTION AGENCY****40 CFR Parts 261, 266, and 271****[FRL-4098-4]****RIN 2050-AC85****Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Exclusions****AGENCY:** Environmental Protection Agency (EPA).**ACTION:** Final rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is amending the hazardous waste management regulations (40 CFR 261.4(a)) to exclude from the definition of solid waste those coke by-product residues that are recycled by being: (1) Returned to coke ovens as a feedstock to produce coke; (2) returned to the tar recovery process as a feedstock to produce coal tar; or (3) mixed with coal tar prior to coal tar refining or sale. These residues are hazardous because they exhibit the Toxicity Characteristic (TC) of 40 CFR 261.24. This exclusion was proposed on July 26, 1991 (56 FR 35758). The Agency is also excluding the similarly-situated hazardous waste K087 when recycled in this way. These exclusions are conditioned on there being no land disposal of the recycled material. EPA's July proposal also proposed to list as hazardous seven wastes from the production, recovery and refining of coke by-products. EPA will address these listings in a separate final rule to be issued at a later date.

**EFFECTIVE DATE:** June 22, 1992.**FOR FURTHER INFORMATION CONTACT:**

Mr. Ron Josephson, Environmental Engineer, U.S. Environmental Protection Agency, Office of Solid Waste (OS-333), 401 M St., SW, Washington, DC 20460, (202)260-4770; or call the RCRA/Superfund Hotline at: (800)424-9346 (toll-free in the U.S.), (800)553-7672 (TDD), or (703)920-9810.

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On May 6, 1987, the Environmental Protection Agency (EPA) published a proposed rule which would expand controls on hazardous waste combustion in boilers and industrial furnaces (52 FR 16982). Because of the implications of this proposed rule on the recycling practices of the iron and steel industry, the American Iron and Steel Institute (AISI) petitioned EPA, requesting that EPA not classify product coke and coal tar that have been produced from decanter tank tar sludge (EPA Hazardous Waste No. K087), as solid wastes. AISI also requested that EPA exclude the mixture of K087 and coal or coal tar from the definition of solid waste when:

(1) K087 is recycled by being applied to coal prior to or just after charging the coal to a coke oven, or

(2) K087 is combined with coal tar prior to its being sold.

Coke produced from K087 is often used as a fuel and could be classified as a solid waste and a hazardous waste since it is a fuel produced from or otherwise containing hazardous waste K087 (RCRA 3004(q)(1)(a); 40 CFR 261.2(c)(2)). Coal tar, a by-product from coke production that has a high fuel value, is refined into other fuel products and also may contain K087 materials. These waste-derived materials had previously been exempt from substantive regulation under 40 CFR 261.6(a)(3)(vii). However, AISI requested that the coke and coal tar produced from coal containing decanter tank tar sludge (K087) be excluded from the definition of solid waste in § 261.4(a) since the addition of K087 sludge does not affect

the concentration of hazardous constituents in the product coke or coal tar. AISI submitted data to EPA on metals and organic constituents in coke, coal tar, and decanter tank tar sludge. The data contained analyses for the following metals—arsenic, cadmium, chromium, lead, and mercury, and for the following organics—anthracene and phenanthrene, benzo(a)anthracene and chrysene, benzo(a)pyrene, fluoranthene, pyrene, naphthalene, and phenol.

After review of these data, EPA proposed the exclusion (52 FR 16982, May 6, 1987), and took final action on February 21, 1991 (56 FR 7203). (This action came about as part of a larger rulemaking establishing emissions standards for boilers and industrial furnaces burning hazardous waste.)

EPA determined that:

**1. Basis for Approval of AISI Petition**

(1) The recycling of tar decanter sludge by application to the coal charge does not appear to have a significant effect on the chemical composition of end product coke;

(2) The organic chemical composition of the tar decanter sludge does not appear to be significantly different from that of the coal tar; and

(3) The concentration of one metal (lead) in the sludge appears to be slightly higher than in the coal tar. However, the increase does not appear to be statistically significant due to the high variability of the concentration values.

Based on the above, and the fact that there is such a small quantity of sludge relative to the quantity of coke and coal tar produced by the coking process, EPA determined that decanter tank tar sludge recycling, as described here, does not significantly affect the concentration of toxic metals and organic constituents in coal tar or coke (*id.*)

Based on these findings, the Agency exercised its discretion to determine whether the coke and coal tar containing K087 materials should be considered "discarded," and hence solid wastes and concluded that they were not. Hence, EPA excluded the coke product (produced from coal and decanter tank tar sludge K087) and the coal tar mixed with the decanter tank tar sludge from the definition of solid waste. As the Agency stated, these two methods of recycling K087 are not part of the waste disposal problem, but rather can be viewed as part of an ongoing industrial recycling process; *American Mining Congress v. EPA*, 907 F.2d 1179, 1186 (D.C. Cir. 1990).



## 2. Exclusion of Coking Process

EPA reasoned that it also followed that the coking process should be excluded from any regulation when K087 is used as an ingredient to produce coke. EPA stated that given that K087 is similar to other materials used to produce coke and comes from the same process as these other materials, it would be anomalous to assert RCRA control over the coke oven itself. This form of management is similar to raw materials management and again is "not part of the waste disposal problem." For this reason, EPA excluded coke ovens that process hazardous waste K087 from the applicability of the BIF rule (40 CFR 268.100). EPA also noted that coke ovens are subject to a special regulatory regime under amended section 112(i)(8) of the Clean Air Act, and that RCRA regulation could disrupt the Clean Air Act regulatory scheme. Thus, the Agency decided that RCRA regulation of coke ovens reprocessing K087 materials is not appropriate in any event (id.; see also 56 FR 43875, September 5, 1991).

### B. Other Coke By-Product Plant Residues Returned to Coke Ovens

The exclusion from the definition of solid waste provided in the final BIF rule applied only to coke and coal tar produced from hazardous waste K087. This exclusion thus did not extend to coke or coal tar produced from wastes or by-product residues other than K087, nor does it exclude the residues themselves when they are reinserted into coke ovens or mixed with coal tar. These products and residues thus would have been subject to full RCRA regulation (if they exhibit a characteristic of hazardous waste) before reinsertion into the coke oven. These materials (i.e., coke by-product plant residues other than K087 that exhibit the Toxicity Characteristic) are the subject of today's final rule and are discussed further below.

This result appeared unwarranted to EPA because the subject by-products are not significantly different from the K087 materials already excluded. EPA thus proposed to exclude these materials from the definition of solid waste when they are recycled to the coke oven or mixed with coal tar. In that proposal, the Agency proposed several options as to where and how the exclusion could apply (56 FR 35777, July 26, 1991).

EPA also issued an Administrative Stay of the regulatory standards that would otherwise apply to coke ovens that receive residues exhibiting the toxicity characteristic from the coke by-products recovery process (56 FR 43874; September 5, 1991). The primary effect of the stay was to halt the application of RCRA air emission standards to coke ovens when they reprocess coke by-product residues and to give the Agency time to evaluate public comments on the exclusion from the definition of solid waste that was proposed for these residues on July 28, 1991 (56 FR 35787). As a result of the stay, coke oven operators were allowed to continue to recycle coke by-product residues back into their coke ovens without RCRA regulation of the ovens' air emissions pending EPA action on the proposed rule.

Today's final rule differs from the stay in that it does not just apply to the coke production process but instead excludes from the definition of solid waste coke by-product plant residues that exhibit the Toxicity Characteristic, when they are recycled by being returned to coke ovens or mixed with coal tar. By meeting the terms of the exclusion, many materials would not be subject to all portions of the RCRA regulations.

### II. Basis for Today's Rule

As discussed in more detail below, the record for this rulemaking establishes clearly that coke by-product plant residues exhibiting the TC are not

significantly different from K087 and that these TC by-product residues are recycled to the coke process in ways identical to K087. It is clear to the Agency, therefore, that the regulatory scheme for all materials, when recycled in this way, should be the same. It also appears to the Agency that safe handling of these materials before and during recycling can be assured without full scale subtitle C regulation.

As discussed in more detail below, EPA is thus promulgating an exclusion from the definition of solid waste for K087 and other coke by-product plant residues that are recycled by reinsertion to coke ovens along with coal to produce coke, or that are recycled by mixing with coal tar. The next section describes the coking and tar refining processes that generate these residues.

### A. Description of Processes

#### 1. The Coking Process

Coke is manufactured by anaerobic carbonization of coal in high temperature (900–1200°C) coke ovens. Coke is the main product and is used as a reductant in the blast furnaces used in iron manufacturing. Coal tar, light oil, ammonia liquor and coke-oven gas are also generated from the coke ovens. The coke oven gas (COG) is processed through recovery units to separate other saleable by-products from the gas stream and is then used as fuel. Coal tar is typically refined to produce commercial and industrial products including pitch, creosote oil, refined tar, naphthalene, and commercial materials such as bitumen. Figure 1 is a generic process flow diagram of the manufacture of coke and coke by-products. The diagram also indicates the sources of by-product residues that are the subject of this rule.

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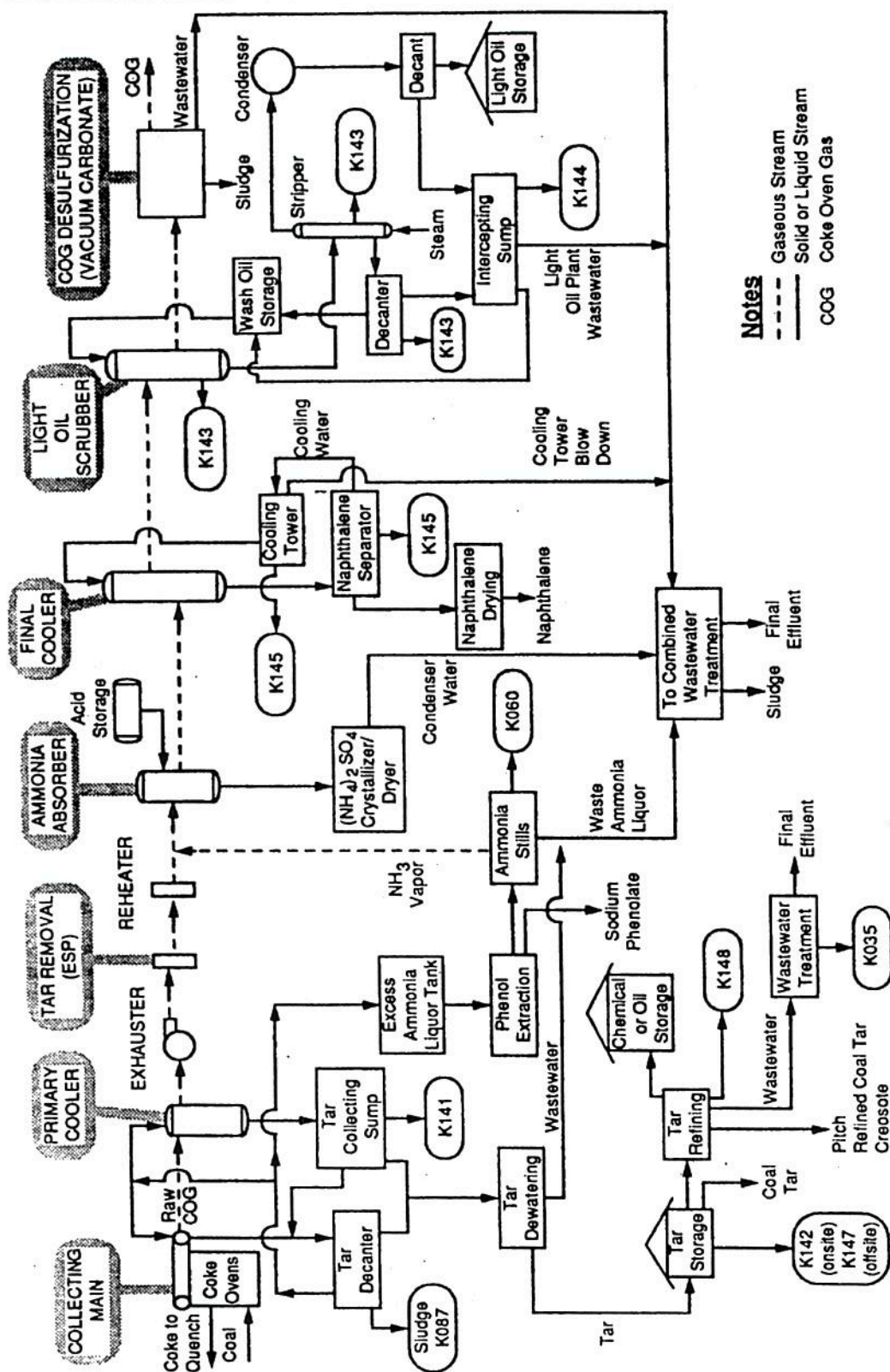


Figure 1  
COKE BY-PRODUCTS RECOVERY

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## 2. The Tar Refining Process

Coal tar is refined by either batch or continuous distillation into a number of products, including pitch, creosote, naphthalene, and tar acids. The heavy liquid components such as pitch and creosote are sent to a distillation column for further refining. The pitch, which is generated at the softening point of tar, is discharged from the still, cooled, extruded, and poured into barrels or other containers for storage.

### B. Description of By-Product Residues and Recycling Processes

Coke by-product residues are generated from separation steps used in the recovery of the by-products described above. At the beginning of the process, during the removal of coal tar, tar residue accumulates in the tar collection sump and at the bottom of tar storage tanks. The most frequent management practice for tar storage tank and tar collecting sump residues, based on information received from 1985 RCRA § 3007 questionnaires and supplemental data submitted in 1987, is recycling the residues to the coke oven. Other management practices for tar storage tank residues include burning the wastes in a boiler, disposing of them in a landfill, or soliciting contractor services for removal of the wastes. The Agency believes that the proportion of wastes being recycled to coke ovens is higher than indicated by the 1987 data due to the potential impact of Land Disposal Restrictions and improvements in recycling technology in this industry.

Naphthalene recovery residues are generated in the final cooling tower, naphthalene separator and collection sumps. These residues are currently managed by recycling them to the tar decanter, the coke oven, or the crude coal tar tank. The light oil recovery process generates wash and light oil residues in the scrubber tower, the stripping still and in a decanter or centrifuge used to separate a polymerized resin referred to as wash oil muck from the recycled wash oil. These wastes are managed in a variety of ways. Over half of the reporting facilities recycle these residues to the coke oven, the tar decanter, the tar sump, or dissolve the residues in the wash oil and recycle them to the light oil recovery process. Some facilities burn the wastes in boilers or use them as fuels, or employ contractors to remove the wastes.

Coke by-product residues that are reinserted into coke ovens or mixed with coal tar usually require prior processing in order to obtain a homogeneous material for recycling

purposes. Thirteen of the 34 domestic coking facilities utilize one patented recycling technology, while other facilities use various homogenization techniques such as ball mills. Such techniques can be accomplished without land disposal of the recycled materials.

In the largest-use recycling process, steel hoppers with capacities of one to two cubic yards are used to collect by-product residues. The hoppers are transported using forklifts or trucks and may be placed in "heater huts" (metal sheds heated by steam pipes) prior to processing. The residues are then added, along with a homogenizing agent, to heated batch tanks where grinding and blending occur. The homogeneous liquid is then pumped to a building where it is blended with or sprayed on coal as it moves along a conveyor belt to the coke ovens.

These same homogenization and blending principles are used at facilities equipped with ball mills. At these facilities, the residues are transferred by truck or pipe to a homogenization tank or ball mill. Subsequent holding or mixing tanks may be used to incorporate additional coke by-product residues into the homogenized mixture. The mixture is then applied to the coal as it travels along a conveyor.

The coal tar refining plant may produce two process residuals. The first process waste is coal tar storage tank residuals which are generated at the bottom of the storage tanks prior to the refining process. This is the same process waste that is generated in the coal tar storage tanks at the coke plant. It is thus reasonable to classify this residue as a coke by-product plant residue for purposes of this rulemaking. Certain facilities agitate their tar storage tanks either by mechanical means or with an air agitator to prevent the formation of tank bottoms. However, compliance with the benzene NESHAP requires the replacement or retrofitting of these storage vessels at coking facilities. The tank clean-outs required for this action have generated large quantities of tank residues. Tar storage tank residues are generally mixed with coal and recycled to the coke oven. Facilities that do not produce coke may transport the residues to coking facilities or incinerate or land dispose these wastes. The second process waste from the refining plant is high boiling-point residue which accumulates on the fire tubes and at the bottom of the batch still and must be removed periodically. This waste is referred to as tar distillation residue. The distillation residues may be recycled to the distillation tank along with the crude coal tar or to the coke

oven. Other waste management practices include land disposal and removal by contractors. Continuous distillation does not generate any process residues.

Incidentally, in normal by-product plant residue recycling practices, a small amount of by-product residue is used essentially as make up material by adding the residue to a larger volume of coal tar. This is the practice EPA is excluding in today's rule. Mixing wastes generated from the coke by-products processes with a small amount of coal tar is not a recycling process in this industry, and would not meet the terms of the exclusion as stated in this notice. Should this practice occur, the Agency would view it as using coal tar to dilute hazardous waste, not as a recycling practice.

### C. Similarity of other Coke By-Product Plant Residues to K087

Coke by-product plant residues are similar in composition to tar decanter sludge (K087) because they are generated from the same process as K087 and are not subject to further processing steps that would alter the chemical composition of the products or by-products. As described above in the process discussion, the first units in the coke oven gas (COG) cleaning process, which directly follow the coke oven, are the primary cooler and the tar decanter. The tar decanter removes particulates containing coal fines from the coal tar and generates K087 sludge.

K087 waste generally contains from six to eleven percent water and from 89 to 94 percent coal tar compounds, which are primarily aromatic hydrocarbons such as those found in pitch, anthracene oil, and light, middle and heavy oils. The volatile organics found in highest concentrations in K087 waste include benzene, toluene and xylene. Semivolatile organics include acenaphthalene, anthracene, benz(a)anthracene, benzo(b and k) fluoranthene, benzo(a)pyrene, chrysene, fluorene, fluoranthene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene and pyrene.

The remainder of the coking process consists of by-product purification and recovery operations. The by-products are generated from the coke oven along with the coal tar and originate from the same COG stream that carries the coal tar. The by-product residues that are recycled to the coke oven are primarily generated from distillation columns, separators, and scrubbers used in the recovery of by-products, or sumps and storage tanks used in the process. These by-product residues include process



residues other than K087 from the recovery of coal tar, coal tar storage tank and distillation residuals, sump, distillation and decanter residues from light oil recovery, and naphthalene collection and recovery residues.

To make a listing determination on wastes generated from the coking industry, the Agency evaluated waste composition data obtained from sampling and analysis of by-product waste streams at various coke plants. The organic constituents found in highest concentrations in the by-product waste include benzene, acenaphthalene, anthracene, benz(a)anthracene, benzo(b and k)fluoranthene, benzo(g,h,i)perylene, benzo(a)pyrene, chrysene, fluorene, fluoranthene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene and pyrene. These by-product residues are often characteristically hazardous because they exhibit the Toxicity Characteristic for benzene.

The Agency believes that since the by-product residues are generated from the same process as the coke, coal tar, and K087 sludge, and contain the same constituents as other residual streams such as K087, the by-product residues will behave in a similar way, chemically, to K087 when recycled to coke ovens or mixed with coal tar. Furthermore, since the recycling of K087 has been shown not to have a significant effect on the chemical composition of the coke and coal tar products, EPA believes the recycling of by-product residues likewise would not have a significant effect on the chemical composition of these products.

### III. Justification for Exclusion from the Definition of Solid Waste

EPA is today adopting final rules providing for an exclusion from the definition of solid waste for coke by-product plant residues that exhibit the TC when these by-products are recycled by being returned to coke ovens either directly or by being mixed with coal tar prior to its refining or sale as a product. This exclusion includes residues from the coal tar refining process, as well as residues otherwise classified as K087 (provided, of course, that these residues are recycled as described above). The exclusions apply subsequent to the point of generation of the residues, and also apply to residues whether or not generated at the site of the coke oven or a tar refiner. Importantly, the exclusion is conditioned on there being no land disposal of the residues at any point from residue generation to reinsertion to the coke oven or tar recovery or refining process. Materials that are stored in piles on the land are thus considered to

be solid wastes and are not excluded from regulation. Similarly, materials used in a manner constituting disposal or materials that are incinerated are fully regulated under RCRA subtitle C and all units managing these wastes must meet applicable RCRA regulations. Conditioned in this way, as explained below, the Agency believes the exclusion is a reasonable exercise of its discretion to determine whether materials the by-products residues are "discarded", in the sense of being part of the waste management problem. *American Mining Congress v. EPA*, 907 F.2d at 1188-87 (D.C. Cir. 1990).

The Agency notes further that these materials would become solid and hazardous wastes if they are accumulated speculatively. See 40 CFR 261.2(c)(4) and 261.1(c)(8). This constraint guards against prolonged accumulation without recycling of the residues, a situation that has led to repeated severe damage incidents in other recycling industries. See generally 50 FR 658-61 (January 4, 1985).

#### A. Exclusion for Residues Generated and Recycled at Coke Oven Site

The exclusion for coke by-product residues rests on the following factors. First, recycling of this material causes no statistically discernible increase in concentration of toxic constituents in the coke ultimately produced, or in the feed to coke ovens (when the by-product residues are added to coke oven feedstock). Second, because the by-product residues are generated from the coking process and are inserted on-site back into that process, the activity itself can be viewed as one continuing process rather than a waste management activity. *American Mining Congress*, 907 F.2d at 1186. Third, by conditioning the exclusion of no land disposal occurring, the traditional RCRA objectives of absence of land placement of material and general safe handling will be assured. Thus, any of these materials that are placed in land disposal units such as piles are solid and hazardous wastes, and the units are regulated units. (In addition, of course, an abandoned spill of these materials (viz. a spill not picked up expeditiously and used beneficially) constitutes disposal of a hazardous waste. See 45 FR at 76627 (Nov. 19, 1980); 48 FR at 2509-10 (Jan. 19, 1983); 50 FR at 28712-713 (July 15, 1985); and 55 FR at 22671 (June 1, 1990).)

The Agency has also examined the question of air emissions from these various operations in determining whether to exclude the residues. With respect to air emissions from the coke oven itself, not only will net emissions

be unchanged by the recycling of these residues (since they are so chemically similar to a feedstock used in any case) but coke ovens are subject to a detailed regulatory scheme under amended sections 112(d)(8) and (i)(8) of the Clean Air Act. These provisions represent a carefully crafted Congressional compromise as to the appropriate level of regulation of air emissions from these units, which compromise would be upended by imposition of RCRA regulation. (For example, the Clean Air Act allows coke ovens to elect a later compliance date with the standards based on residual risk in exchange for meeting increasingly strict technology-based standards [CAA section 112(i)(8)]. These provisions would be undermined if RCRA risk-based standards were now applied. RCRA air emissions standards would appropriately apply, however, if coke ovens were to process hazardous wastes, such as spent solvents, generated from sources other than normal coking and coke by-product operations. The Agency's point here is that where the coke oven is just reprocessing materials from coking and related operations, the Clean Air Act regulatory scheme should operate.) This result would be particularly untoward given the lack of effect of the recycling practice on the air emissions themselves. See RCRA section 1006(b) (integration of RCRA regulations with other regulatory programs administered by EPA).

With respect to air emissions from operations preceding the coke ovens, the Agency also believes that regulatory standards imposed under the Clean Air Act already provide adequate controls. The operations are addressed by the emission standards for benzene waste operations (part of the so-called benzene NESHAAP) contained in 40 CFR part 61 subpart FF (subpart FF applies to waste management units (as defined in the subpart instead of RCRA) (§ 61.340(a) and (b)).) The subpart includes standards for tanks, containers, and treatment units. (The Agency has recently agreed to stay the effectiveness of these provisions until clarifying amendments are promulgated. However, the Agency has committed to promulgate the amendments by December 1, 1992.) Given this level of regulatory control, the Agency does not regard these operations as part of the waste management problem.

All of these reasons also apply to the parallel recycling of K087 decanter tank tar sludge, an identical recycling practice involving a practically identical material. The exclusion adopted today thus also applies to K087 subsequent to



its generation, provided that it is recycled in the manner described above and that there is no land disposal of the material during the recycling process.

#### *B. Exclusion of Coke By-products Generated Off-site*

With respect to by-product residues generated off-site, many of the same considerations apply. EPA believes that proper tracking of the material can be assured both due to commercial reality of the close relationship of tar refiners to coke oven plants, and, for regulatory purposes, due to the requirement in § 268.7(a)(6) that a notice be kept in facility records documenting that the residues are generated, why they are excluded, and what their disposition is. See also 56 FR 41174 (Aug. 19, 1991). Also, the Agency believes that conditioning the exclusion on there being no land disposal of the residues will prevent the types of land pollution that are the subtitle C program's traditional focus.

With respect to air emissions, although the benzene NESHAP does not apply to off-site operations not classified as coke by-product recovery, the Agency does not view this as warranting classification of the materials as a solid waste when located at such plants (i.e. prior to shipment to a coke oven site). Commenters pointed out that classification of the residues as RCRA hazardous wastes could impede recycling by necessitating use of manifests, further recordkeeping, and possible psychological reluctance to handle the material. Certainly, a waste classification would add a level of regulatory complication, which would likely decrease recycling of this material. Because the environmental benefits of imposing a waste classification appear marginal (as set out above) and because of the reasonable possibility that the classification would impose some burdens on a recycling practice that would result in less of the residues being recycled, the Agency is exercising its discretion so that residues generated off-site are not considered to be discarded, and hence are not solid wastes. This exclusion is conditioned on the residues being recycled in the manner explained above, and conditioned further on there being no land disposal of the residues.

A final point is the explanation of how the exclusion is worded in the regulation. The current exclusion in § 261.4(a)(10), adopted in the February 21, 1991 regulations excludes the coke fuels produced from the recycling practice. Today's regulation omits reference to the products (i.e., coke and coal tar) made from the recycling of

hazardous wastes. This is because the exclusion rule excludes the coke by-product residues when recycled, subsequent to the point of generation. Thus, an exclusion for the products made by this recycling process is redundant.

#### *C. Exclusion of Coke By-product Residues Generated at Tar Refining Sites*

##### *1. Exclusion of Tar Refining Residues Recycled On-site*

Today's regulation also applies to residues generated by tar refiners, as well as to residues generated at coke ovens. As mentioned above, some residues (from fire tubes, tanks, etc.) are recycled at the tar refiner site. The residues are reinserted into the crude coal tar storage tank or into the pitch fraction before it is separated. Products made from the distillation processes include creosote, chemical oils, and pitch. These products of course are not subject to RCRA regulation.

EPA is also excluding these residues from being solid wastes before products are produced. The reasons are similar to those for coke by-product residues. Thus, facilities may recycle tar refining residues to various parts of the tar refining process as long as the recycling process, or any pre-handling, does not involve land disposal. If the residues are accumulated speculatively, spilled without immediate cleanup, they would be solid wastes. In addition, the exclusion applies only to residues from the coke by-products industry used in the tar refining process. Adding non-coke by-product hazardous waste not only has none of the attributes of a closed process (the situation raising jurisdictional limits on RCRA authority), but could have adverse environmental effects by using refined tar to mask unrelated hazardous waste.

##### *2. Exclusion of Tar Refining Residues Recycled Off-site*

Several residues from the tar refining portion of the industry are recycled off-site, often by being sent to a coking facility. The residues have constituents similar to K087 and are similarly amenable to recycling to the coke oven. For the reasons stated above, the recycling exclusion published today applies to tar refining materials recycled off-site but within the coke by-products industry.

Again, recycling of these residues must involve no land disposal. Should these materials be land disposed, speculatively accumulated, spilled (at a facility or during transport) and not expeditiously picked up and used, or

mixed with hazardous wastes from outside the coke by-products industry, the exclusion will not apply to the materials, and they will be considered solid wastes from the point of generation. By providing an exclusion based on this no land disposal scenario, the Agency believes that the value of the materials can be recovered by the industry in an environmentally responsible manner.

#### *D. Response to Comments*

EPA received comments from several industry groups concerning the proposed recycling exclusion. All the commenters supported the general concept of the exclusion from the definition of solid waste for coke by-product residues that are recycled by being returned to coke ovens as a feedstock to produce coke. There was disagreement over the point at which the exclusion should take effect (i.e., at the point of generation of coke by-product residues or at the point of reinsertion of the residues into coke ovens). Many commenters supported an exclusion at the point of generation of the residues. As proposed, the exclusion would have begun at the point of reinsertion of residues into coke ovens. The industry commenters interpreted the proposed exclusion as requiring an RCRA permit for the management of residues prior to the point of reinsertion. They stated that processing of the residues is required before reinsertion to a coke oven or mixing with coal tar. Several commenters contended that an exclusion at the point of reinsertion would have adverse economic effects on the coke by-products industry and associated recyclers (due to the alleged necessity, trouble, and expense associated with obtaining RCRA permits) and would discourage, without any resulting environmental benefit, the recycling of residues that is currently occurring.

EPA believes that the exclusion promulgated today (i.e., that, subject to certain conditions being fulfilled, the exclusion applies after the point of generation) meets these commenters' concerns. In addition, as explained above, the Agency believes further that the exclusion, as conditioned, adequately assures that these operations are conducted safely.

Two commenters expressed concern over the rescission, promulgated in the BIF rule, of the exclusion for coke and coal tar containing K087 at 40 CFR 261.6(a)(3)(vii). The Agency clarifies here that the exclusion for coke and coal tar containing K087 promulgated in the BIF rule at 40 CFR 261.4(a)(10) negates



the need for the exclusion at § 261.6(a)(3)(vii).

Likewise, as explained above, the exclusion promulgated today makes it unnecessary to mention coke and coal tar in the exclusion. In addition, two commenters addressed the issue of unwarranted application of the derived-from rule to by-products of the coking process. They pointed out that the exclusion promulgated in the BIF rule covers only products containing or produced from K087, and does not exclude the hazardous waste prior to that point. This is a concern because other secondary materials from the coking process are reinserted into coke ovens and a strict reading of the regulations would cause these materials to be "derived-from" hazardous waste K087. EPA does not consider marketable by-products of the coking process (e.g., light oil, naphthalene) to be derived from K087 under these circumstances. As stated earlier, to avoid confusion on this issue, the Agency is rewording the exclusion to also exclude K087 beyond the point of generation, when it is recycled to coke ovens or mixed with coal tar subject to the provisions stated in the exclusion.

Another issue raised by commenters that requires some clarification is that of on-site versus off-site recycling. One commenter supported limiting the proposed exclusion for coke by-product residues to residues that are recycled on-site (*i.e.*, at the same site where they were generated). Another commenter suggested expanding the exclusion to encompass off-site recycling of residues. This commenter stated that "there is no controlling judicial precedent that provides a basis for EPA to limit exclusions from the definition of solid waste to on-site recycling situations." The commenter referenced the January 8, 1988 *Federal Register* (53 FR 524) discussion of this topic, wherein EPA noted that no automatic on-site/off-site distinction can be made in terms of assessing whether a particular recycling process qualifies as an on-going manufacturing activity. The commenter has misinterpreted this preamble discussion. EPA actually noted that the existence of on-site recycling is a relevant element in classifying a recycling process as part of an on-going manufacturing operation. However, the Agency believes that the mere fact that recycling takes place on-site does not necessarily mean that the activity is part of an on-going manufacturing process. EPA also stated that "on-site or single generator recycling activities can continue to be characterized by

elements of discard and so remain within the Agency's Subtitle C jurisdiction." In other words, EPA does not believe that on-site recycling automatically qualifies a recycling process as part of an on-going manufacturing operation and, therefore, beyond RCRA regulation. EPA makes no reference in the January 8, 1988 preamble to the inclusion of off-site recycling activities in what EPA considers an on-going manufacturing process.

The Agency received several other comments not directly relevant to the generation or recycling of TC hazardous wastes at coke by-products facilities. In many cases, the commenters were concerned with similar materials or past generation and disposal practices. The Agency will respond to such comments in the final listing rule, scheduled for mid-1992.

#### IV. Relationship to Other Regulatory Programs

##### A. Toxicity Characteristic

Many of the coke by-product plant residues that are returned to coke ovens with coal exhibit the Toxicity Characteristic for benzene, and are therefore hazardous wastes. Recycling these characteristic hazardous wastes in this way renders the coke oven subject to regulation under the BIF rule. When the resultant waste-derived coke is burned as a fuel, the burning unit is likewise subject to regulation. The exclusion promulgated today, when all its conditions are met, frees these materials and units from regulation under RCRA.

##### B. Burning of Hazardous Waste in Boilers and Industrial Furnaces

Members of the coke by-products industry have requested that coke by-product plant residues be excluded from the definition of solid waste when they are recycled to coke ovens or mixed with coal tar. Without this exclusion, coke ovens could be deemed to be burning hazardous waste when they reprocess the by-products, subjecting the coke ovens to the full range of RCRA regulations. This request was, in part, accomplished in the BIF rule by the promulgation of the exclusion to the definition of solid waste for recycled K087 (which accounts for most of the waste generation in this industry).

With the promulgation of the recycling exclusion for K087 in the BIF rule, generators became required to furnish, at a minimum, a one-time notification for restricted hazardous wastes subject to the exclusion, according to the

provisions of 40 CFR 268.7(a)(6). In the preamble to the rule that clarified this requirement (56 FR 3866, January 31, 1991), the Agency stated what tracking requirements are still necessary for restricted hazardous wastes (such as K087) which meet exclusions to the definition of solid or hazardous waste subsequent to generation. At a minimum, a facility must provide a one-time notification in its operating record that indicates the generation of a restricted waste and its disposition. Such records typically should include the quantities of waste generated, the equipment used to perform the recycling, the location of the process, and a description of the process that shows that the waste meets the terms of an exclusion. Respondents to an enforcement action bear the burden of proof that the material qualifies for the exclusion by demonstrating that there is a known market or disposition for the material, and that it meets the terms of this exclusion (See 40 CFR 261.2(f)).

For wastes generated in the coke by-products industry, generators thus have already had to show that K087 waste is recycled (per the BIF rule exclusion). Should the disposition of the waste change for any reason, the facility must update the notification records accordingly to keep these records accurate. For example, if the materials are no longer recycled, additional Land Disposal Restrictions requirements may apply. For non-listed TC hazardous wastes (other than K087), the Agency will address their restrictions and treatment standards in a future rulemaking scheduled for promulgation later in 1992.

In summary, the recycling of TC characteristic residues does not appear to have a significant effect on the concentration of metals and organic constituents in the final coke and coal tar products. In addition, recycling of these residues will not affect emissions from the coke ovens and blast furnaces. The characteristic residues exhibit strong similarities to coal and coke, and are amenable to the same kind of processing; therefore, the Agency believes it is warranted in determining that these residues, when recycled by being returned to the coke oven or mixed with coal tar, are not discarded when these materials are not spilled or land disposed. As a result, EPA is excluding coke by-product plant residues that are recycled in this way from the definition of solid waste.



## V. State Authority

### A. Applicability of Rules in Authorized States

Under section 3006 of RCRA, EPA may authorize qualified states to administer and enforce the RCRA program within the state. (See 40 CFR part 271 for the standards and requirements for authorization.) Following authorization, EPA retains enforcement authority under sections 3008, 7003, and 3013 of RCRA, although authorized states have primary enforcement responsibility.

Prior to the Hazardous and Solid Waste Amendments of 1984 (HSWA), a state with final authorization administered its hazardous waste program entirely in lieu of EPA administering the Federal program in that state. The Federal requirements no longer applied in the authorized state, and EPA could not issue permits for any facilities in the state that the state was authorized to permit. When new, more stringent Federal requirements were promulgated or enacted, the state was obliged to enact equivalent authority within specified time frames. New Federal requirements did not take effect in an authorized state until the state adopted the requirements as state law.

In contrast, under section 3006(g) of RCRA, new requirements and prohibitions imposed by HSWA take effect immediately in all states, regardless of authorization status. EPA is directed to implement those requirements and prohibitions in an authorized state, including the issuance of permits, until the state is granted authorization to do so. While states must still adopt HSWA-related provisions as state law to retain final authorization, HSWA applies in authorized states in the interim.

### B. Effect on State Authorization

Today's rule is promulgated pursuant to the authority of HSWA. This is because the rule is part of the determination of whether or not to list coke by-product wastes as hazardous pursuant to section 3001(e)(2) (an HSWA provision). In addition, this rule is part of the process of determining the proper scope of the Toxicity Characteristic, so it implements that HSWA provision (RCRA section 3001(h)) as well. Therefore, EPA will implement the provisions of the exclusion promulgated today in authorized states until they modify their programs to adopt this rule and the modification is approved by EPA. A State submitting a program modification may apply to receive either interim or final authorization under section 3006(g)(2) or 3006(b), respectively, for

this provision on the basis of requirements that are substantially equivalent or equivalent to EPA's. The procedures and schedule for State program modifications are described in 40 CFR 271.21. It should be noted that all HSWA interim authorizations will expire January 1, 1993.

40 CFR 271.21(e)(2) requires that states having final authorization must modify their programs to include equivalent regulations within a year of promulgation of these regulations if only regulatory changes are necessary, or within two years if statutory changes are necessary. These deadlines can be extended in exceptional cases (40 CFR 271.21(e)(3)). Once EPA approves the modification, the state requirements become Subtitle C RCRA requirements.

Authorized states are only required to modify their programs when EPA promulgates Federal regulations that are more stringent or broader in scope than the authorized state's regulations. For those changes that are less stringent or reduce the scope of the Federal program, states are not required to modify their programs. This is a result of section 3009 of RCRA, which allows states to impose more stringent or broader regulations than the Federal program. The regulations promulgated today at § 261.4(a) are considered to reduce the scope of the Federal program because today's rule excludes certain materials and activities now within the RCRA purview. Therefore, authorized states are not required to modify their programs to adopt regulations consistent with and equivalent to this rulemaking.

Although states are not required to adopt today's rule, EPA strongly encourages states to do so as quickly as possible. As discussed above, on the effective date of the BIF rule, August 21, 1991, many coke oven operators would have been forced to stop recycling coke by-product plant residues back into their coke ovens, absent the Administrative Stay. The Agency wants to minimize disruption to legitimate recycling practices currently taking place in the coking industry. The exclusion promulgated today will effectively do this, and authorized states are urged to adopt this provision expeditiously in an effort to promote recycling over waste disposal.

## VI. Regulatory Requirements

### A. Executive Order No. 12291

Under Executive Order No. 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirements of a Regulatory Impact Analysis. This final rule is not major because it will not result in an effect on

the economy of \$100 million or more, and it will not increase costs or prices to industry. Rather, this regulation will reduce the overall costs and economic impact of EPA's hazardous waste management regulations by allowing a form of recycling to continue and eliminating possible permitting requirements for certain coke ovens. Because this amendment is not a major regulation, no Regulatory Impact Analysis has been conducted.

### B. Paperwork Reduction Act

This rule does not contain any new information collection requirements subject to OMB review under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.*

### C. Regulatory Flexibility Act

Pursuant to the Regulatory Flexibility Act (5 U.S.C. 601-612), whenever an Agency is required to publish a General Notice of Rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis (RFA) that describes the impact of the rule on small entities (i.e., small businesses, small organizations, and small governmental jurisdictions). No RFA is required, however, if the head of the Agency certifies that the rule will not have a significant impact on a substantial number of small entities.

Since EPA has determined the recycling exclusion published here does not affect wastes generated by small entities (as defined by the Regulatory Flexibility Act), and the Agency believes that small entities who handle them will not generate them in significant quantities, this regulation, therefore, does not require an RFA. Accordingly, I hereby certify that this regulation will not have a significant economic impact on a substantial number of small entities.

### List of Subjects

#### 40 CFR Part 261

Hazardous waste, Recycling.

#### 40 CFR Part 266

Hazardous waste, Recycling.

#### 40 CFR Part 271

Hazardous waste.

Dated: June 12, 1992.

F. Henry Habicht II,  
Acting Administrator.

For the reasons set out in the preamble, title 40 of the Code of Federal Regulations is amended as follows:



**PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE**

1. The authority citation for part 261 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, and 6922.

2. Section 261.4 is amended by revising paragraph (a)(10) to read as follow:

**§ 261.4 Exclusions.**

(a) \* \* \*

(10) EPA Hazardous Waste No. K087, and any wastes from the coke by-products processes that are hazardous only because they exhibit the Toxicity Characteristic specified in Section 261.24 of this part, when, subsequent to generation, these materials are recycled to coke ovens, to the tar recovery

process as a feedstock to produce coal tar or are mixed with coal tar prior to the tar's sale or refining. This exclusion is conditioned on there being no land disposal of the wastes from the point they are generated to the point they are recycled to coke ovens or the tar refining process.

\* \* \* \* \*

**PART 266—STANDARDS FOR THE MANAGEMENT OF SPECIFIC HAZARDOUS WASTES AND SPECIFIC TYPES OF HAZARDOUS WASTE MANAGEMENT FACILITIES**

3. The authority citation for part 266 continues to read as follows:

Authority: Sections 1006, 2002(a) 3004 and 3014 of the Solid Waste Disposal Act, as amended by the Resource Conservation and

Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6924, and 6934).

**§ 266.100 [Amended]**

4. Section 266.100 is amended by removing the note to paragraph (a).

**PART 271—REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS**

5. The authority citation for part 271 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), and 6926.

6. Section 271.1(j) is amended by adding the following entry to table 1 in chronological order by date of publication in the Federal Register:

**§ 271.1 Purpose and scope.**

\* \* \* \* \*  
(j) \* \* \*

TABLE 1—REGULATIONS IMPLEMENTING THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984

Promulgation date	Title of regulation	Federal Register reference	Effective date
June 22, 1992	Exclusion from the definition of solid waste for the recycling of hazardous wastes in the coke by-products industry.	(Insert FR page numbers).	June 22, 1992.

[FR Doc. 92-14462 Filed 6-19-92; 8:45 am]  
BILLING CODE 6560-50-M